

REMARKS**INTRODUCTION**

In accordance with the foregoing, claims 3 and 8 have been amended. No new matter has been submitted and reconsideration of the allowability of the pending claims is respectfully requested.

Claims 1-21 are pending, with claims 1-10 being under consideration.

RESTRICTION RECONSIDERATION REQUEST

Briefly, it is noted that the outstanding Office Action indicates that applicants elected claims without traverse in the previous response to the Examiner Restriction Requirement. However, applicants respectfully submit that the restriction requirement was traversed and applicants respectfully submitted that all pending claims should be considered within the present application.

In addition, it is respectfully submitted that the Office Action has not provided sufficient support for the conclusion of independence and/or distinctness other than citing paragraphs of the summary. The requirement for restriction requires both the independence/distinctness and a burdensome search. The determination of the burdensome search is not merely met if the Examiner concludes that the independence/distinctness element of the test has been met.

Applicants further request the Examiner cite the different classes and sub-classes that will have to be searched, resulting in the determination of the burdensome search.

Accordingly, applicants again respectfully request reconsideration of the withdrawing from consideration of claims 11-21.

REJECTION UNDER 35 USC §103

Claims 1-10 stand rejected under 35 USC §103(a) as being unpatentable over De Hann et al., U.S. Patent No. 5,657,401, in view of Suzuki et al., U.S. Patent No. 6,118,552, and further in view of Wittig, U.S. Patent No. 2004/0066468. This rejection is respectfully traversed.

By way of review and only as an example, independent claim 1 sets forth:

"[a]n apparatus for measuring noise, comprising:

a block average calculator dividing individual pictures of an input image signal into blocks and calculating average luminance values for a plurality of the divided blocks;

a delay separately delaying the pictures of the input image signal by one period;

an SAD calculator calculating an absolute difference between an average luminance value of a present picture and an average luminance value of a picture of the image signal delayed by the delay; and

a picture noise selector selecting a desired number-th arranged absolute difference, of a plurality of calculations from the SAD calculator for the input image signal, as a picture noise when absolute differences calculated by the SAD calculator are arranged, in turn, from a smallest value toward a largest value." (Emphasis added).

The Office Action has relied upon De Hann et al. to show a majority of the claimed features, and relied upon Suzuki et al. to demonstrate a block average calculator and Wittig to demonstrate the claimed picture noise selector.

Here, the operation of De Hann et al. is substantially identical to the background of the present application, demonstrating a calculating of an SAD of adjacent blocks of pixels and counting (through counter 5) the number of times the calculated SADs for the different blocks fall within a determined range.

The counter 5 runs on a clock apparently corresponding to the frequency for the different blocks and is reset based upon a clock corresponding to the frequency for the entire frame, i.e., the counter 5 is reset each frame. The resultant output of the counter 5 upon reset can be used in conjunction with another counter 9 running on the clock used for resetting counter 5. The output of counter 9 is used as the value representing the noise measurement result. See De Hann et al. in col. 2, lines 33-64.

The determined range used in incrementing counter 5 can also be later adjusted based upon the result of counter 9.

Thus, De Hann et al. focuses on using incremented counters to determine a noise measurement value. The incrementing of the counters is based upon whether a calculated SAD falls within a determined range.

As noted in the Office Action, De Hann et al. at least fails to disclose or suggest the claimed:

"a picture noise selector selecting a desired number-th arranged absolute difference, of a plurality of calculations from the SAD calculator for the input image signal, as a picture noise when absolute differences calculated by the SAD calculator are arranged, in turn, from a smallest value toward a largest value."

The Office Action indicates that Wittig discloses this feature, and that the same would have been obvious to modify into the system of De Hann et al.

First, it is respectfully noted that the outstanding relied upon reason for modifying De Hann et al. fails to meet a *prima facie* obviousness case, which requires evidenced reasons for the proposed modification.

The Office Action only relies on the fact that De Hann et al. may desire a reliable method and apparatus for measuring noise and indicates that this is the reason for changing the system of De Hann et al. This statement of potential broad benefits to De Hann et al. is insufficient to meet to the evidenced reasoning required by a *prima facie* obviousness case.

Evidenced reasoning for modifying a reference or for combining references requires more than a conclusory statement the combination would be desired. Rather, there must be at least some reasoning in the record evidencing why one skilled in the art would find it desirable to change/alter De Hann et al.

Alternatively, based upon the Office Action's relied upon motivation, stating it would be obvious to modify De Hann et al. because De Hann et al. indicates that one skilled in the art would desire an improved error estimation, it would have been obvious to modify De Hann et al. to have any and all features relating to error estimation. However, this is untrue, and thus improper.

Secondly, it is respectfully submitted that Wittig has been misinterpreted and fails to disclose or suggest the claimed selecting of one of the claimed calculated absolute difference (from a plurality of SAD calculations) as the picture noise. In addition, Wittig fails to disclose or suggest that such a calculated absolute difference is selected based upon selecting a particular number-th arranged absolute difference, when the plurality of SAD calculations are arranged from a smallest value to a largest value.

Rather, Wittig sets forth a system that takes each calculated SAD value and applies that particular calculated SAD value to a plurality of different ranges, with the SAD value meeting each separate range triggering an incrementing of a corresponding counter for that range. The value of the counter with the lowest count, representing one of the ranges, may then be determined to be the noise estimated value.

Thus, in Wittig, a particular SAD value is not selected, from a plurality of SAD values, but rather each particular SAD value is applied to a number of different ranges and a count for the corresponding range with the lowest number of SAD values falling within that range is selected as the noise estimation value. Similarly, Wittig does not disclose or suggest selecting from a number of SAD values.

Wittig selects from among counters representing the lowest range that a single SAD value applied to all ranges, with the number of SAD values falling within each range being represented by a respective counter for each respective range. See paragraph [0012] of Wittig for example.

Thus, it is respectfully submitted that a combination of De Hann et al. and Wittig would not disclose the presently claimed invention, including the claimed picture noise selector.

In addition, it is respectfully submitted that it is unclear how De Hann et al. would be modified to include the teaching of Wittig.

As noted above, De Hann et al. sets forth a particular system of a first and second counters and a single variable range, apparently based upon a resultant an output of the second counter. De Hamm et al. identifies how the first counter would be reset, and identifies how the clock of the second counter is based upon the resetting of the first counter.

Thus, the invention of De Hann et al. is focused on implementing this interaction between the range of comparator 3 and counters 5 and 9 to use a result of counter 5 as the error estimation value.

Conversely, Wittig would appear to teach that all of the comparator 3 and counters 5 and 9 are not necessary, but that the comparator 3 can be changed into an array of comparators, and the counters of 3 and 5 can be removed and replaced by a counter corresponding to each arrayed comparator.

Thus, such a modification of De Hann et al. would appear to be counter to the underlying inventive focus of De Hann et al. and according to MPEP 2143.01 evidence of non-obviousness.

In addition, here, rather than being combinable with De Hann et al., it is respectfully submitted that Wittig is actually an alternative to the system of De Hann et al., i.e., they would not appear to be compatible, and/or at least the substantial modifications required of De Hann et al. would support a conclusion of non-obviousness.

Independent claim 6 sets forth a similar selection of the calculated absolute difference, which is not disclosed or suggested by any of De Hann et al., Suzuki et al., or Wittig, alone or in combination.

In addition, regarding dependent claims 3 and 8, for example, are also not disclosed by De Hann et al., Suzuki et al., or Wittig, alone or in combination, which fail to further show any selection from already selected calculated absolute differences, nor the claimed selection being based upon the claimed arrangement.

Again, the disclosure of Wittig is more similar to De Hann et al., though achieving the result through different methods, by basing an error determination upon results of counters, not upon a selected absolute difference.

Accordingly, withdrawal of this rejection and allowance of all pending claims is respectfully requested.

CONCLUSION

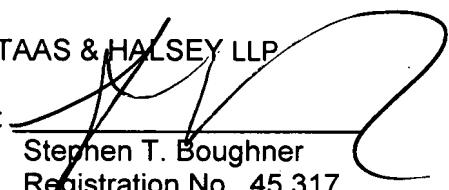
There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

By: 
Stephen T. Boughner
Registration No. 45,317

Date: 10/18/02
1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501